

**REMARKS**

The Office Action mailed December 20, 2005, has been received and reviewed. Claims 1 through 29 were previously pending in the application. Claims 10 through 29 have been canceled for the filing of one or more divisional patent applications. Claims 1 through 9 stand rejected. Applicant has amended no claims herein, and respectfully requests reconsideration of the application as presented herein.

**35 U.S.C. § 103(a) Obviousness Rejections**

**Obviousness Rejection Based on U.S. Patent No. 5,286,981 to Lilja et al.**

Claims 1 through 3 and 5 through 9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lilja et al. (U.S. Patent No. 5,286,981) Applicant respectfully traverses this rejection, as hereinafter set forth.

M.P.E.P. 706.02(j) sets forth the standard for a Section 103(a) rejection:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, **the prior art reference (or references when combined) must teach or suggest all the claim limitations.** The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). (Emphasis added).

The 35 U.S.C. § 103(a) obviousness rejections of claims 1-3 and 5-9 are improper because the elements for a *prima facie* case of obviousness are not met. Specifically, the rejection fails to meet the criterion that the prior art reference must teach or suggest all the claims limitations.

Regarding independent claim 1 and claims 2-3, 5-9 depending therefrom, Applicant submits that the Lilja reference does not teach, suggest or motivate Applicant's invention as claimed in independent claim 1. Applicant's invention as presently claimed in independent claim 1 recites:

1. A threshold-adjusted transistor, comprising:  
a substrate including:  
spaced-apart source and drain regions formed in the substrate; and  
a channel region defined between the source and drain regions;  
a layer of gate oxide formed over at least a part of the channel region; and  
**a gate** formed over the layer of gate oxide, the gate further ***having at least one implant aperture formed therein***, the channel region of the substrate further including a channel internal implanted region between the source and drain regions, the source and drain regions each including lightly doped extensions under the gate and the lightly doped extensions and the channel internal implanted region being substantially equivalently doped. (Emphasis added.)

The Lilja reference does not teach or suggest Applicant's claimed invention having a claim limitation of "a gate ... having at least one implant aperture formed therein" and therefore cannot render obvious under 35 U.S.C. §103 Applicant's invention as presently claimed.

The Office Action introduces the Lilja reference and alleges:

With regard to claims 1-2 and 5, Lilja et al. disclose a power semiconductor device M1 (col. 5, line 9 to col. 10, line 23 and fig. 1), comprising:

Spaced-apart source and drain regions 2 formed in the substrate 1 (fig.1);

A channel region 7 defined between the source and drain regions 2 (fig.1);

A layer of gate oxide 3 formed over at least part of the channel region 7 (col. 5, line 53);

**A gate G1** formed over the gate oxide 3, the gate ***further having at least one implant aperture formed there (col. 9, lines 17-42 and fig. 4)***, the channel region between the source and drain regions 2 of the substrate 1 further including a channel internal implanted region 7 between the source and drain regions (fig. 1), the source and drain regions 2 each including lightly doped extensions 6 and the channel internal implanted region 7 being substantially equivalently doped.

However, since the applicant has not established the criticality of the doping concentration stated and since these concentrations are in common use in similar devices in the art, it would have been obvious to one of ordinary skill in the art to use these values in the device. Where patentability is said to be based upon particular chosen dimensions or upon another variable recited in a claims, the applicant must show that the chosen dimensions are critical. (Office Action, pp. 2-3, emphasis added.)

A clear reading of the Office Action's citations to the Lilja reference results in very different teachings and suggestions. Specifically, the Lilja reference teaches or suggests:

***The first window F1 is then opened in the gate electrode layer 14 alongside the third window F3. As a result, the gate electrode layer 14 splits up into***

*the future gate electrodes G1, G2 and G3.* (Lilja, col. 9, lines 17-20; emphasis added.)

Clearly, the “first window” of the Lilja reference splits a single gate into a plurality of gates. Such a “window” as taught or suggested in the Lilja reference cannot be an “aperture” as claimed by Applicant since an “aperture”, as commonly known, forms a hole or void, while retaining the integrity of the whole, rather than “split[ting]” the whole “up into” separate parts, as taught or suggested in the Lilja reference.

The Lilja reference further continues to teach or suggest:

... as can be seen from the exemplary *arrangement of gate electrodes shown in FIG. 2C*. In that case, the *first and the third gate electrodes G1 and G3, respectively, are isolated from one another by a third window F3* .... (Lilja, col. 7, lines 39-43; emphasis added.)

Clearly, FIG. 2C of the Lilja reference confirms the above-citations by illustrating gates that are separate as a result of the teachings or suggestions of the Lilja reference’s “windows”. Accordingly, the Lilja reference does not teach or suggest Applicant’s claimed invention having a claim limitation of “a gate ... having at least one implant aperture formed therein” and therefore cannot render obvious under 35 U.S.C. § 103 Applicant’s invention as presently claimed.

Therefore, Applicant respectfully requests that the rejections of independent claim 1 and claims 2-3, 5-9 depending therefrom be withdrawn.

Obviousness Rejection Based on U.S. Patent No. 5,286,981 to Lilja et al. in view of U.S. Patent 6,649,461 to Lai et al.

Claim 4 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Lilja et al. (U.S. Patent No. 5,286,981) in view of Lai et al. (U.S. Patent No. 6,649,461). Applicant respectfully traverses this rejection, as hereinafter set forth.

M.P.E.P. 706.02(j) sets forth the standard for a Section 103(a) rejection:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, **the prior art reference (or references when combined) must teach or suggest all the claim limitations.**

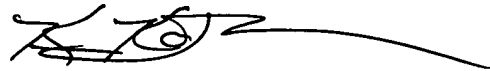
The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). (Emphasis added).

The 35 U.S.C. § 103(a) obviousness rejection of claim 4 is improper because the nonobviousness of independent claim 1 precludes a rejection of claim 4 which depends therefrom because a dependent claim is obvious only if the independent claim from which it depends is obvious. *See In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988), *see also* MPEP § 2143.03. Therefore, the Applicant requests that the Examiner withdraw the rejection to independent claim 1 and claim 4 which depends therefrom.

**CONCLUSION**

Claims 1 through 9 are believed to be in condition for allowance, and an early notice thereof is respectfully solicited. Should the Examiner determine that additional issues remain which might be resolved by a telephone conference, he is respectfully invited to contact Applicant's undersigned attorney.

Respectfully submitted,



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